

ABSTRACT OF THE INVENTION

A system for controlling a rendering engine by using specialized commands. The commands are used to generate a production, such as a television show, at an end-user's computer that executes the rendering engine. In one embodiment, the commands are sent over a network, such as the Internet, to achieve broadcasts of video programs at very high compression and efficiency. Commands for setting and moving camera viewpoints, animating characters, and defining or controlling scenes and sounds are described. At a fine level of control math models and coordinate systems can be used make specifications. At a coarse level of control the command language approaches the text format traditionally used in television or movie scripts. Simple names for objects within a scene are used to identify items, directions and paths. Commands are further simplified by having the rendering engine use defaults when specifications are left out. For example, when a camera direction is not specified, the system assumes that the viewpoint is to be the current action area. The system provides a hierarchy of detail levels. Movement commands can be defaulted or specified. Synchronized speech can be specified as digital audio or as text which is used to synthesize the speech.